



## Explanation of Significant Differences

# Ley Creek Deferred Media Portion of General Motors–Inland Fisher Guide Subsite Onondaga Lake Superfund Site



Town of Salina, Onondaga County, State of New York

EPA Region 2

September 2022

### INTRODUCTION

Under Section 117 (c) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA or Superfund), as amended, the U.S. Environmental Protection Agency (EPA) is required to publish an explanation of significant differences (ESD) when, after selection of a remedy,<sup>1</sup> subsequent enforcement or remedial actions lead to significant, but not fundamental, differences in the selected remedy. Sections 300.435(c)(2)(i) and 300.825(a)(2) of the National Oil and Hazardous Substances Contingency Plan (NCP) set forth the criteria for issuing an ESD and require that an ESD be published if the remedy is modified in a way that differs significantly in either scope, performance, or cost from the remedy that was selected.

In 2015, the New York State Department of Environmental Conservation (NYSDEC) and EPA issued a record of decision (2015 ROD) in which a remedy was selected for the Ley Creek Deferred Media (LCDM) portion of the General Motors–Inland Fisher Guide (GM-IFG) subsite (Subsite), also referred to as the LCDM operable unit, of the Onondaga Lake Superfund site. That remedy called for, among other things, the excavation and off-site disposal of floodplain soil exhibiting contaminant concentrations greater than restricted soil cleanup objectives (SCOs) consistent with current and reasonably anticipated future land use. It was estimated in the 2015 ROD that 15,000 cubic yards (CY) of contaminated soils would need to be excavated and properly disposed of at a licensed facility at a present-worth cost of \$7.6 million. Extensive soil sampling was conducted during the remedial design to better delineate the areas of contamination. The results of this sampling indicated that the contamination at LCDM is much more widespread than what was originally estimated. The estimated volume of contaminated soils that needs to be addressed has

increased to approximately 142,500 CY, an almost 10-fold increase. In addition, the area of PCB-contaminated soil that will need to be addressed includes wetlands and a mature forested area. This new information prompted EPA to reconsider the remedy selected in the 2015 ROD and explore other remedial alternatives. Specifically, seven remedial alternatives for LCDM were evaluated in a focused feasibility study (FFS), including the “no action” alternative and the 2015 ROD remedy updated to address the increased volume and cost.

Based upon a detailed analysis of the alternatives in the FFS report, EPA has determined that the soil remedy selected in the ROD, adjusted to reflect increased soil volumes and associated remedial costs, best satisfies the requirements of Section 121 of CERCLA, 42 U.S.C. § 9621, and provides the optimal balance of tradeoffs with respect to the NCP's nine evaluation criteria, set forth at 40 CFR § 300.430(e)(9).

The modified soil remedy includes the excavation and off-site disposal of floodplain soils exhibiting contaminant concentrations greater than restricted SCOs (see table) and is adjusted to reflect increased soil volumes and associated remedial costs, consistent with current and reasonably anticipated future land use. This modification does not address a forested area of LCDM (forested area) containing mature tree growth, which is located mostly to the north of Ley Creek toward the Townline Road end of the reach of Ley Creek between Townline Road and Route 11 (a.k.a. Brewerton Road). The forested area consists of both forested wetland and forested floodplain.

The forested area was given special consideration as an ecological resource in the FFS. An alternative in-situ remedial approach is currently being evaluated for this area. As such, the forested area will not be addressed until this evaluation is complete and a decision has been

<sup>1</sup> A remedy is memorialized in a document called a record of decision, or ROD.

made regarding whether to modify the remedy relating to the forested area. If modification is necessary, this decision will be documented in either a ROD amendment or ESD, as appropriate.

The estimated volume of contaminated soils (excluding the forested area) that require excavation and off-site disposal has increased to approximately 64,000 CY in 7 acres, resulting in an increase of the estimated present-worth cost of the remedy selected in the 2015 ROD for contaminated soils (excluding the forested area) to \$44.5 million. This ESD serves to document the increase in both the volume of contaminated soil and the associated estimated cost.

## SITE DESCRIPTION

LCDM is located in the Town of Salina, Onondaga County, New York (see Figure). LCDM consists of approximately 9,200 linear feet of Ley Creek including the adjacent floodplains located between Townline Road and the Route 11 Bridge. LCDM does not include the Ley Creek PCB Dredgings subsite, which is located south of Ley Creek between the creek and Factory Avenue. Also included in LCDM is a 10-acre wetland (referred to as the "National Grid Wetland") located on the northern portion of the National Grid property directly west of the former GM-IFG facility, soil in the approximately 1.8-acre area located directly between the former GM-IFG facility's northern property boundary and Factory Avenue (referred to as the "Factory Avenue Area"), and soil in the area located along the northern shoulder of Factory Avenue in the vicinity of LeMoyne Avenue (referred to as the "Factory Avenue/LeMoyne Avenue Intersection Area").

Ley Creek, which drains an area of approximately 30 square miles, flows due west approximately two and a half miles downstream from the former GM-IFG facility, where it discharges into Onondaga Lake. The Ley Creek drainage basin is generally described as a highly urbanized area. Portions of the City of Syracuse and the towns of Cicero, Clay, DeWitt, Manlius, and Salina are located in the Ley Creek drainage basin. Also located in the Ley Creek watershed are interstate highways, a National Grid electrical transfer station, Syracuse International Airport, and the Air National Guard's Hancock Field. Large areas of impermeable surfaces in the Ley Creek watershed cause rapid runoff during storms and corresponding precipitous rising of flow and water levels.

LCDM also includes a forested area, an approximately 32-acre area of mature tree growth, which is located in the floodplains adjacent to Ley Creek. The forested area is situated mostly to the north of Ley Creek toward the Townline Road end of the reach between the creek and

the New York Thruway. A small portion of the forested area is located south of Ley Creek. This forested area consists of both forested wetland and forested floodplain. The Thruway is located directly to the north of the portion of the forested area on the north side of Ley Creek. Impacted soil/dredged materials are present within a portion of the forested area (approximately 13.9 acres). Although the forested area comprises a portion of LCDM, the remediation of this area is not addressed under this ESD, and the decision regarding how to address this portion of LCDM will be determined based on the ongoing evaluation and potential modifications to the LCDM remedy as it relates to the forested area that is being evaluated.

The National Grid Wetland is part of the New York State-regulated wetland known as "SYE-6." A drainage ditch is located along the northern edge of the National Grid property along Factory Avenue. Upland drainage flows into this wetland from the south and is discharged north to the ditch and through culverts under Factory Avenue towards Ley Creek. Wetland vegetation, trees, and shrubs comprise the dominant vegetation of the wetland. The National Grid property is currently zoned for industrial use. The National Grid Wetland area, shown in the Figure, was remediated by the Revitalizing Auto Communities Environmental Response Trust (RACER)<sup>2</sup> in 2019, consistent with the remedy set forth in the 2015 ROD.

The Factory Avenue Area extends easterly from the northwestern corner of the former GM-IFG facility property to Townline Road and is located between the facility property and Factory Ave. The Factory Avenue Area is characterized by maintained grass and is a corridor for overhead and underground utilities. Specifically, a natural gas pipeline and an Onondaga County sanitary sewer are present underground along this corridor. This area is currently zoned for industrial use. The Factory Avenue Area, shown in the Figure, was remediated with the National Grid Wetland in 2019.

During pre-design investigations (PDI) in 2015, soil sampling and analysis was conducted in the residential area located adjacent to the northern bank of Ley Creek (referred to as the "Residential Area"), as depicted in the Figure. PCB-impacted soil (i.e., soil with PCB concentrations greater than 1 part per million [ppm], or 1 milligram per kilogram (mg/kg)) was encountered at depths ranging from 2 inches to 5 feet below ground surface. PCB-impacted soil was found at varying distances to the north on each of the nineteen properties within the Residential Area. The Residential Area was remediated in 2018.

The Factory Avenue/LeMoyne Avenue Intersection Area is located north of Factory Avenue between LeMoyne Avenue and the Route 11 Bridge, as shown in the Figure.

<sup>2</sup> In 2009, GM filed for bankruptcy. On March 31, 2011, administration of the remedial activities at the Subsite was taken over by RACER.

This area is currently zoned for commercial use. The Factory Avenue/LeMoyne Avenue Intersection Area has not yet been remediated.

## **SITE HISTORY, CONTAMINATION, AND SELECTED REMEDY**

The area in the vicinity of Ley Creek was primarily farmland up until the late 1930s. Since then, commercial and industrial development has occurred in the drainage basin, including in areas bordering the creek.

GM began operating the GM-IFG manufacturing facility in 1952. GM's operations included the following: metal die casting; nickel, chromium and copper cyanide electroplating; stamping; polishing; buffing; painting; and machining. In the early 1960s, GM began injection molding operations, and by the early 1970s, injection molding had replaced metal finishing and die casting operations at the facility. GM used PCB-containing hydraulic oil in die cast machines and injection molding operations until 1968 and in the diffusion pumps of three vacuum metallizers until 1969. More than 120 injection molding machines were operated at the plant until the plant closed in December 1993. PCB-containing oil leaked from the machines to floor drains and sumps. During early facility operations, this oil and other process waste was discharged to a swale at the facility. The swale discharged to Ley Creek, where PCBs are now found in the sediments down to the mouth of the creek at Onondaga Lake.

Prior to the early 1970s, poor channel conditions and large impermeable areas in the Ley Creek watershed caused extensive flooding of the creek. These flooding events led to the creation of the Ley Creek Drainage District. Beginning in 1970, the Onondaga County Department of Drainage and Sanitation widened, deepened, and rerouted Ley Creek through the Town of Salina Landfill. Dredged materials were spread along the banks of Ley Creek in addition to being disposed of at the Town of Salina Landfill. Areas along the south bank of Ley Creek, upstream of the Route 11 Bridge, where PCB-contaminated dredge spoils were placed, were included on the New York State Registry of Inactive Hazardous Waste disposal sites as the Ley Creek PCB Dredgings subsite. A remedy was selected by the NYSDEC under state law for the Ley Creek PCB Dredgings subsite in March 1997, which called for the excavation and disposal of PCB-contaminated material greater than 50 mg/kg and the consolidation and capping of material less than 50 mg/kg in compliance with the Toxic Substances Control Act (TSCA) PCB cleanup and disposal regulations (40 CFR Part 761). That remedy was completed in 2001, and the Ley Creek PCB Dredgings subsite is currently monitored and maintained.

The Lower Ley Creek subsite, which is located downstream of LCDM, consists of the contaminated sediments and floodplain soils along the lower two miles of Ley Creek, beginning at and including the Route 11 Bridge, and ending downstream at the mouth of Ley Creek and its confluence with Onondaga Lake, as well as the sediments and floodplain soils associated with the "Old Ley Creek Channel" (the pre-1970s dredging route of Ley Creek). A remedy was selected for the Lower Ley Creek subsite in 2014. The selected remedy calls for the excavation and disposal of PCB-contaminated creek sediments, wetland sediments, and floodplain soils. The design is currently underway for the Lower Ley Creek subsite.

NYSDEC and GM entered into an Administrative Order on Consent for the GM-IFG Subsite (Index # D-7-0001-97-06) (Order), which became effective on September 25, 1997. The Order required GM to conduct a remedial investigation/ feasibility study (RI/FS) for the Subsite, including LCDM. Soil, sediment, surface water and biota samples were obtained for chemical analysis as part of the RI. Three significant interim remedial measures<sup>3</sup> were implemented at the Subsite from 2002 to 2004 to prevent further migration of PCBs from the former GM-IFG facility to Ley Creek.

The RACER Trust completed the state law RI/FS for the Subsite. The RI report dated March 2013 was approved by NYSDEC in April 2013. The FS report dated May 2013 and an FS report addendum dated June 2014 were approved by NYSDEC concurrent with the issuance of the ROD in March 2015 by NYSDEC and EPA. RACER sold the former GM-IFG facility property in 2020. RACER is also currently conducting an RI/FS for the former GM-IFG facility property and groundwater.

The remedy selected in the 2015 ROD addresses contaminated soil and sediment and includes, among other things, the following components:

- Excavation of an estimated 9,600 CY of sediments in Ley Creek exceeding 1 mg/kg of PCBs.
- Excavation of an estimated 15,000 CY of surface and subsurface floodplain soil to meet the restricted SCOs<sup>4</sup> consistent with current and reasonably anticipated future land use of discrete Subsite areas.
- Transport of the excavated creek and wetland sediments to a staging area where they will be dewatered. It is anticipated that this water will require treatment prior to discharge.
- Transport of the excavated contaminated soils and sediments containing greater than 50 mg/kg of PCBs to a TSCA-compliant facility.
- Transport of those soils and sediments which fail Toxic Characteristic Leaching Procedure testing and are

<sup>3</sup> An interim remedial measure is a discrete action under state law for both emergency and non-emergency situations that can be conducted without extensive investigation and evaluation.

<sup>4</sup> SCOs identified in the 2015 ROD are included in the Table.

determined to be characteristic hazardous waste and non-TSCA waste (*i.e.*, less than 50 mg/kg PCBs) to an off-site RCRA-compliant facility.

- Transport of those soils and sediments that are non-TSCA-regulated (less than 50 mg/kg of PCBs) and are not characteristic hazardous waste to a RCRA-compliant facility.
- Use of clean fill meeting the requirements of DER-10, Technical Guidance for Site Investigation and Remediation, Appendix 5,<sup>5</sup> to replace the excavated soil or complete the backfilling of the excavation and establish the designed grades at the Subsite.
- Habitat restoration of Ley Creek excavated areas.
- Use of institutional controls (ICs) in the form of environmental easements to restrict intrusive activities in areas where contamination remains unless the activities are in accordance with an approved Site Management Plan (SMP).
- Proper management of all post-construction remedy components, as provided for in the SMP. Specifically, the SMP will describe procedures to confirm that the requisite engineering (*e.g.*, demarcation layer) and ICs are in place and that such controls continue to protect public health and the environment. The SMP will also include the following: provisions for the management of future excavations in areas where contamination remains; an inventory of any use restrictions; provisions for the implementation of the requirements of any above-noted environmental easements and/or restrictive covenants; a provision for the performance of the operation and monitoring required for the remedy; and a provision requiring that a property owner or party implementing the remedy submit periodic certifications that the institutional and engineering controls are and remain in place.

Following the 2015 ROD, extensive soil sampling was conducted during the remedial design between 2018 and 2021 to better delineate the areas of contamination. This sampling consisted of approximately 2,400 samples from approximately 570 discrete locations within LCDM. The residential areas and National Grid wetland have already been remediated consistent with the 2015 ROD.

## **BASIS FOR THE DOCUMENT AND DESCRIPTION OF SIGNIFICANT DIFFERENCES**

It was estimated in the 2015 ROD that 15,000 CY of contaminated soils would need to be excavated at a then present-worth cost of \$7.6 million. Based upon the results of extensive soil sampling conducted during the remedial design, it was determined that the contamination is much more widespread than what was originally estimated. The estimated volume of contaminated soils that require excavation and off-site disposal increased to

approximately 142,500 CY. The area of the PCB-contaminated soil that needs to be addressed includes wetlands and mature forest. As a result, consideration was given to addressing the contaminated soil utilizing other remedial alternatives. Specifically, seven remedial alternatives were evaluated in the *General Motors – Inland Fisher Guide Subsite Operable Unit 2 and Expanded Territory -- Focused Feasibility Study*, Ramboll, July 2022. These included:

- Alternative 1 – No further action
- Alternative 2 – Property Zoning/Use and Ecological Resource-Based Excavation (2015 ROD remedy, updated with the increased volume and cost)
- Alternative 3A - Covers and Property Zoning/Use/Ecological Resource-Based Excavation and In Situ Treatment
- Alternative 3B - Covers and Property Zoning/Use/Ecological Resource-Based Excavation with Containment in Old Channel West Area and In Situ Treatment
- Alternative 4 - Extended Covers and Limited Property Zoning/Use-Based Excavation with Containment in Old Channel West Area and In Situ Treatment (with limited contingent remedy)
- Alternative 5 - Extended Covers and Limited Property Zoning/Use-Based Excavation with Containment in Old Channel West Area and In Situ Treatment (with conservative contingent remedy)
- Alternative 6 - Covers and 1 mg/kg PCBs- and 10 mg/kg PCBs-Based Excavation with Containment in Old Channel West Area and In Situ Treatment

Of the seven remedial alternatives that were evaluated in the FFS report, five rely, in part, on the current inaccessibility and limited use of LCDM and incorporate permanent separation between people and the contaminated soil. The volume of contaminated material left in place would vary under each of those five alternatives and would be a potential threat to the adjacent creek and the biota within it should there be a catastrophic failure of the banks during a significant storm event.

Based upon a detailed analysis of the alternatives in the FFS report, EPA has determined that the soil remedy selected in the ROD, adjusted to reflect the increased volume of contaminated soil and associated costs, continues to best satisfy the requirements of Section 121 of CERCLA, 42 U.S.C. § 9621, and provide the optimal balance of tradeoffs with respect to the NCP's nine evaluation criteria, set forth at 40 CFR § 300.430(e)(9). This determination does not address the impacted soils

<sup>5</sup> Issued by NYSDEC's Division of Environmental Remediation on May 3, 2010, this policy provides an overview of the site

investigation and remediation process for the State Inactive Hazardous Waste Disposal Site Remedial Program.



present within a portion of the forested area (approximately 13.9 acres of LCDM). The forested area was given special consideration as an ecological resource in the FFS. An alternative in-situ remedial approach is currently being evaluated for this area. As such, the forested area will not be addressed until this evaluation is complete and a decision has been made regarding whether to modify the remedy relating to the forested area. If modification is necessary, this decision will be documented in either a future ROD amendment or ESD, as appropriate.

The estimated volume of contaminated soils (excluding the forested area) that require excavation and off-site disposal has increased to approximately 64,000 CY in 7 acres, resulting in an increase of the estimated present-worth cost of the remedy selected in the 2015 ROD for contaminated soils (excluding the forested area) to \$44.5 million. This ESD serves to document the increase in both the volume of contaminated soil and the associated estimated cost. While the increase in volume and cost is significant, the fundamental approach to addressing the contamination at LCDM has not changed. The increased volume of contaminated soil corresponds to an increased area requiring disturbance, increased volume requiring off-site transport, increased volume requiring placement in landfills, increased traffic associated with transport of waste from the excavation area, and increased truck traffic associated with backfill needed to restore LCDM.

## SUPPORT AGENCY COMMENTS

NYSDEC supports this ESD, as the differences in the remedy are significant but do not fundamentally alter the remedy selected in the 2015 ROD.

## FIVE-YEAR REVIEWS

Because hazardous substances, pollutants, or contaminants will remain at LCDM, which will not allow for unlimited use or unrestricted exposure, in accordance with 40 CFR 300.430 (f)(4)(ii), the remedial action will be reviewed no less often than every five years to ensure that the remedy is, or will be, protective of human health and the environment.

## AFFIRMATION OF STATUTORY DETERMINATIONS

The remedy selected in the 2015 ROD remains fundamentally unaltered, and the statutory determinations made in the ROD still apply. The revelation that the volume of contaminated soil to be excavated was significantly underestimated in the 2015 ROD does not alter the remedial approach. The significant difference to the remedial action includes an increase in the volume of contaminated soil requiring excavation and a corresponding increase in the cost to implement the remedy. In addition, remediation relating to the forested

area will not be addressed until the ongoing evaluation is completed and a decision has been made regarding whether to modify the remedy relating to the forested area. This decision will be documented in either a future ROD amendment or ESD, as appropriate.

The remedy, notwithstanding the significant increase in soil volume to be addressed, will continue to be protective of human health and the environment and will comply with federal and state requirements that are legally applicable or relevant and appropriate to the remedial action. As with the original remedy, the modified remedy is technically feasible and cost-effective.

## PUBLIC PARTICIPATION ACTIVITIES

Pursuant to NCP §300.825(a)(2), this ESD will become part of the Administrative Record for the site. Links to the Administrative Record and other site-related documents can be found on the EPA Site Profile Page at [www.epa.gov/superfund/onondaga-lake](http://www.epa.gov/superfund/onondaga-lake). EPA is making this ESD available to the public to inform them of the differences in the remedy. Should there be any questions regarding this ESD, please contact:

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With the publication of this ESD, the public participation requirements set out in §300.435(c)(2)(i) of the NCP have been met.

Pat

Evangelista

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Pat Evangelista, Director  
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Date

*Andrew Guglielmi*

Andrew Guglielmi, Director  
Division of Environmental Remediation  
New York State Department of  
Environmental Conservation

9/28/22

Date

**Figure: Ley Creek Deferred Media and Areas of Interest**



**Table. Soil Cleanup Objectives (SCOs) identified in 2015 Record of Decision (ROD)**

| COC                   | AREA                                           | SCO (mg/kg) |            |            |            |
|-----------------------|------------------------------------------------|-------------|------------|------------|------------|
|                       |                                                | Residential | Commercial | Industrial | Ecological |
| PCB                   | Factory Avenue Area (North of GM-IFG facility) |             | 1          |            |            |
|                       | National Grid Property (along access road)     |             |            | 25         |            |
|                       | Factory Avenue Area (at Lemoyne Avenue)        |             | 1          |            |            |
|                       | Ley Creek Floodplain                           |             |            |            | 1          |
|                       | National Grid Wetland                          |             |            |            | 1          |
| Arsenic               | Factory Avenue Area (North of GM-IFG facility) |             | 16         |            |            |
|                       | National Grid Property (along access road)     |             |            | 16         |            |
|                       | Factory Avenue Area (at Lemoyne Avenue)        |             | 16         |            |            |
|                       | Ley Creek Floodplain                           |             |            |            | 13         |
|                       | National Grid Wetland                          |             |            |            | 13         |
| Chromium <sup>3</sup> | Factory Avenue Area (North of GM-IFG facility) |             | 1500       |            |            |
|                       | National Grid Property (along access road)     |             |            | 6800       |            |
|                       | Factory Avenue Area (at Lemoyne Avenue)        |             | 1500       |            |            |
|                       | Ley Creek Floodplain                           | 36          |            |            | 41         |
|                       | National Grid Wetland                          |             |            |            | 41         |
| Copper                | Factory Avenue Area (North of GM-IFG facility) |             | 270        |            |            |
|                       | National Grid Property (along access road)     |             |            | 10000      |            |
|                       | Factory Avenue Area (at Lemoyne Avenue)        |             | 270        |            |            |
|                       | Ley Creek Floodplain                           |             |            |            | 50         |
|                       | National Grid Wetland                          |             |            |            | 50         |
| Lead                  | Factory Avenue Area (North of GM-IFG facility) |             | 1000       |            |            |
|                       | National Grid Property (along access road)     |             |            | 3900       |            |
|                       | Factory Avenue Area (at Lemoyne Avenue)        |             | 1000       |            |            |
|                       | Ley Creek Floodplain                           |             |            |            | 63         |
|                       | National Grid Wetland                          |             |            |            | 63         |
| Nickel                | Factory Avenue Area (North of GM-IFG facility) |             | 310        |            |            |
|                       | National Grid Property (along access road)     |             |            | 10000      |            |
|                       | Factory Avenue Area (at Lemoyne Avenue)        |             | 310        |            |            |
|                       | Ley Creek Floodplain                           |             |            |            | 30         |
|                       | National Grid Wetland                          |             |            |            | 30         |
| Zinc                  | Factory Avenue Area (North of GM-IFG facility) |             | 10000      |            |            |
|                       | National Grid Property (along access road)     |             |            | 10000      |            |
|                       | Factory Avenue Area (at Lemoyne Avenue)        |             | 10000      |            |            |
|                       | Ley Creek Floodplain                           |             |            |            | 109        |
|                       | National Grid Wetland                          |             |            |            | 109        |

- Notes:
1. Ley Creek Floodplain uses the ecological SCO unless the residential SCO is lower and that portion of the Ley Creek Floodplain is zoned residential.
  2. Chromium refers to trivalent chromium.
  3. The SCO for this specific compound (or family of compounds) is considered to be met if the analysis for the total species of this contaminant is below the specific SCO.